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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,938	11/20/2003	Marcus Adrianus Van De Kerhof	081468-0306821	6804
909	7590	07/22/2004	EXAMINER	
PILLSBURY WINTHROP, LLP			NGUYEN, HUNG	
P.O. BOX 10500			ART UNIT	PAPER NUMBER
MCLEAN, VA 22102			2851	

DATE MAILED: 07/22/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/716,938	Applicant(s) VAN DE KERHOF ET AL.	
	Examiner Hung Henry V Nguyen	Art Unit 2851	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6, 9, 16-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Bader (U.S.Pat. 6,256,087) in view of Stamm et al (U.S.Pat. 6,327,284).

With respect to claims 1-6, 9, 16-20, Bader (figure 1) discloses a lithographic projection apparatus comprising substantially all basic features of the instant claims such as: a radiation system (1) for providing a projection beam of primary radiation; a support structure (inherent element) for supporting patterning structure (10); a substrate table for supporting a substrate (12); a projection system for projecting a predetermined pattern formed on the patterning structure onto the substrate and a radiation sensor (6,8) disposed in a path traversed by the projection beam for receiving primary radiation of the projection beam wherein the sensor is provided with a radiation-sensitive material (82-83) that converts incident primary radiation into secondary radiation; a radiation detector (81) adapted to detect the secondary radiation. Bader further teaches "detector 8 is designed as a light trap for the DUV light, which corresponding non-reflecting surfaces in a geometry which prevents reflection back to the mirror 5 and energy sensor 5" (see col.2, lines 41-44). Bader does not expressly disclose lacks "a filter material positioned on an incident side of the radiation sensitive material". Stamm et al teaches a photodetector having a coating layer formed directly on the detector for absorbing incident

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ultraviolet light and reemitting visible light in a direction toward the light sensitive element (see col.4, lines 30-60). It would have been obvious to one having ordinary skill in the art at the time the invention was made to combine the teachings of Bader and Stamm to obtain the invention as specified in the above identified claims. It would have been obvious to utilize the a filter material as taught by Stamm onto the photodetector of Bader for the at least the purpose of absorbing and transmitting/reflecting the incident light beam toward the photodetector and whereby the accuracy of the photodetector is greatly improved.

3. Claims 1-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Applicant's Admitted Prior Art of figure 2 in view of Kuhlmann (U.S.Pat. 6,713,795).

With respect to claims 1-9, 16-20, AAPA of figure 2 discloses a radiation sensor used in lithography system comprising: a radiation system (11); a scintillation layer (5) of a thickness of about 1-50 micron for transmitting electromagnetic radiation of secondary (8); a radiation detector (2) adapted to detect the secondary radiation; a radiation sensitive material that converts incident primary radiation into secondary radiation; the photosensitive layer (5) is selected from the group of CaS; ce, YAG, Ce and ZnS; Ag, Al. Even though AAPA does not specifically disclose a support structure for supporting the patterning structure, a substrate table, a projection system. These elements are seen to be inherent teachings of a lithographic projection system and must be present for the system to function as intended. Thus, AAPA of figure 2 discloses substantially all of the limitations of the instant claims except for "a filter material formed on an incident side of the radiation sensitive material". Kuhlmann (figure 2) teaches a photodetector having transmission filter/material (22) formed onto the incident side of the radiation sensitive

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material in order to inhibit the radiation from traveling away from the radiation detector. It would have been obvious to one having ordinary skill in the art at the time the invention was made to employ the transmission filter/material as suggested by Kuhlmann into the photodetector of AAPA of figure 2 for at least the purpose of absorbing and transmitting the incident light beam toward the photodetector and whereby the accuracy of the photodetector is greatly improved.

With respect to claims 10-15, AAPA of Figure 2 as modified by Kuhlmann, does not expressly disclose the thickness of the filter material, or specific material of radiation sensitive material as recited in the instant claims. However, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or workable ranges involves only routine skill in the art. In re Aller, 105 USPQ 233. Also, it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. In re Leshin, 125 USPQ 416.

Prior Art Made of Record

4. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wakabayashi et al (U.S.Pat. 6,636,297) discloses a wavelength measuring apparatus and has been cited for related technical background.

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5. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hung Henry V Nguyen whose telephone number is 571-272-2124. The examiner can normally be reached on Monday-Friday (First Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on 571-272-2112. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Hung Henry V Nguyen
Primary Examiner
Art Unit 2851

hvn
7/20/04